

**REMARKS**

**1. Status of the Application**

Claims 1-13, 15-38 and 40-46 are pending in the present application.

Claims 1-11, 16-38 and 40-42 have been cancelled in response to a prior restriction requirement, as being directed to a non-elected invention, without prejudice to their renewal in a future application. Applicants' cancellation of these claims does not narrow the scope of any of the claims because cancellation of non-elected claims is not related to a statutory requirement for a patent, but rather is related to the Patent Office's convenience for organizing searches. Applicants reserve the right to prosecute the cancelled (or similar) claims in another application(s).

Claim cancellations and amendments were made to better define some preferred embodiments of the invention, notwithstanding Applicants' belief that the cancelled and unamended claims would have been allowable, and without acquiescing to any of the Examiner's arguments, and without waiving the right to prosecute the unamended (or similar) claims in another application, for the purpose of furthering Applicants' business goals and expediting the patent application process in a manner consistent with the PTO's Patent Business Goals (PBG).<sup>1</sup> New Claims 47-54 have been added to described preferred embodiments of the invention.

In particular, Claim 12 has been amended to recite that the "protein has at least one activity chosen from (a) plus end-directed microtubule motor activity, (b) ATPase activity, (c) microtubule binding activity, and (d) specific binding to antibody that is specific for a polypeptide sequence from amino acid 2396 to amino acid 2954 of SEQ ID NO:1." Support for "plus end-directed microtubule motor activity" in Claims 12, 47 and 51 is found in the Specification at, for example, page 4, lines 9-14; paragraph bridging pages 19 and 20; page 20, lines 24-29; and page 50, lines 1-30. Support for "ATPase activity" in Claims 12, 48 and 52 is in the Specification at, for example, page 4, lines 9-14; page 20, lines 24-29; paragraph bridging pages 37 and 38. Support for "microtubule binding activity" in Claims 12, 49 and 53 may be found in the Specification at, for example, page 4, lines 9-14; page 20, lines 24-

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<sup>1</sup> 65 Fed. Reg. 54603 (September 8, 2000).

29; and Example II on pages 51-52. Support for "specific binding to antibody that is specific for a polypeptide sequence from amino acid 2396 to amino acid 2954 of SEQ ID NO:1" in Claims 12, 50 and 54 is provided in the Specification at, for example, page 4, lines 9-14; page 20, lines 24-29; page 46, lines 1-20; page 46, lines 26-31; page 47, lines 1-8; and page 49, lines 13-31.

Claim 43 has been amended to avoid potential prolixity by deleting "a centromere-associated protein E gene product, said sequence" and "having a core motor domain".

Applicants' amendments do not introduce new matter.

**1. Allowed and Objected To Claims**

The Examiner found that "Claim 43 is allowed."<sup>2</sup> Applicants have amended Claim 43 to avoid potential prolixity.

The Examiner stated that "Claim 13 is objected to for depending from a rejected claim."<sup>3</sup> Claim 13 is now in condition for allowance in view of Applicants' below-discussed response to the rejection of Claim 12, from which Claim 13 depends.

**2. Withdrawn Objections And Rejections**

Applicants note, with appreciation, that the Examiner withdrew the following objections and rejections which were advanced in the prior Office Action:

- A. Objection to the specification for non-compliance with sequence rules;<sup>4</sup>
- B. Rejection of Claims 12-15 and 39 under 35 U.S.C. §112, second paragraph for allegedly being indefinite;<sup>5</sup>
- C. Rejection Claims 12, 14, 15, and 39 under 35 U.S.C. §112, first paragraph for alleged inadequate written description;<sup>6</sup>

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<sup>2</sup> Paper No. 13, page 4, second paragraph.

<sup>3</sup> Paper No. 13, page 4, second paragraph.

<sup>4</sup> Paper No. 13, page 2, item 3.

<sup>5</sup> Paper No. 13, page 2, item 4.

<sup>6</sup> Paper No. 13, page 3, item 5.

- D. Rejection of Claims 12, 14, and 15 under 35 U.S.C. §102(b) for alleged anticipation over Yen *et al.*;<sup>7</sup> and
- E. Rejection of Claim 39 under 35 U.S.C. §103(a) for alleged obviousness over Brown *et al.* in view of Hyman *et al.*

**3. Rejection of Claims 12, 15, and 44-46 under 35 U.S.C. § 112, first paragraph**

The Examiner maintained the rejection of Claims 12 and 15, and newly rejected Claims 44-46, under 35 U.S.C. § 112, first paragraph, as allegedly non-enabled because the "claims fail to recite the activity of the encoded protein."<sup>8</sup> Claim 12 has been amended<sup>9</sup> to recite that the "protein has at least one activity chosen from (a) plus end-directed microtubule motor activity, (b) ATPase activity, (c) microtubule binding activity, and (d) specific binding to antibody that is specific for a polypeptide sequence from amino acid 2396 to amino acid 2954 of SEQ ID NO:1."

Support for "plus end-directed microtubule motor activity" is found in the Specification at, for example, page 4, lines 9-14; paragraph bridging pages 19 and 20; page 20, lines 24-29; and page 50, lines 1-30, which include the disclosure of how to prepare polarity marked microtubules and to conduct motility and gliding assays using, for example, time-lapse digital fluorescence microscopy.<sup>10</sup>

Support for "ATPase activity" is in the Specification at, for example, page 4, lines 9-14; page 20, lines 24-29; paragraph bridging pages 37 and 38, which teach methods for

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<sup>7</sup> Paper No. 13, page 3, item 6.

<sup>8</sup> Paper No. 13, page 3, item 8.

<sup>9</sup> Amendment of Claim 12 was made to better define some preferred embodiments of the invention, notwithstanding Applicants' belief that the unamended claim would have been allowable, and without acquiescing to any of the Examiner's arguments, and without waiving the right to prosecute the unamended (or similar) claims in another application, for the purpose of furthering Applicants' business goals and expediting the patent application process in a manner consistent with the PTO's Patent Business Goals (PBG).

<sup>10</sup> New claims 47 and 51 are also supported by this disclosure.

conducting ATPase assays such as those in Kodama *et al.*, Stewart *et al.*, and Lombillo *et al.*<sup>11</sup>

Support for "microtubule binding activity" may be found in the Specification at, for example, page 4, lines 9-14; page 20, lines 24-29; and Example II on pages 51-52, which disclose binding of an exemplary protein that contains the amino-terminal amino acids of XCENP-E to polarity marked microtubules.<sup>12</sup>

Support for "specific binding to antibody that is specific for a polypeptide sequence from amino acid 2396 to amino acid 2954 of SEQ ID NO:1" is provided in the Specification at, for example, page 4, lines 9-14; page 20, lines 24-29. Further support is on page 46, lines 1-20 and page 47, lines 1-8, which discloses an exemplary method of preparing antibodies that are specific for "[a]ntigens for  $\alpha$ -XCENP-E<sub>TAIL</sub> (aa 2396-2954)." Methods for using these antibodies for binding to the recited proteins are also disclosed in the exemplary methods of immunoblots (Specification, page 46, lines 21-25), and immunofluorescence microscopy (Specification, page 46, lines 26-31; and page 49, lines 13-31).<sup>13</sup>

### CONCLUSION

All grounds of rejection and objection of the Office Action of July 1, 2003 having been addressed, reconsideration of the application is respectfully requested. Applicants

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<sup>11</sup> New claims 48 and 52 are also supported by this disclosure.


<sup>12</sup> New claims 49 and 53 are also supported by this disclosure.

<sup>13</sup> New claims 50 and 54 are also supported by the disclosure discussed in this paragraph.

respectfully request the Examiner to **call the undersigned before drafting another written communication**, if any.

Signed on behalf of:

Dated: August 28, 2003



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